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CONTROL OF THE COBLING MOTH IN THE PACIFIC NORTHWEST:

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Codling moth control remains the most important insect problem confronting you who are fruit growers in the Pacific Northwest. The very high standard of fruit production that is being maintained calls for more effective methods of control than are needed for any other insect that you have to deal with.

Any method, or combination of methods, that fails to kill or prevent from entering the fruit at least 99% of all worms, fails to meet your requirements. It is a fact that if no method were used there would soon be four or five worms produced for every apple. If you kill 99% of these, there are still enough left to infest 4 or 5% of your fruit. Suppose you have a tree with 2,000 apples on it, and a possible production of 10,000 worms, or five for each apple. If you kill 99%, you still have 100 worms, or enough to ruin 5% of your apples. And that is too many. Just get a paper and pencil and figure this out for yourself.

I want to make a few practical suggestions, even though you have heard most of them before. First of all, don't neglect your calyx spray. It is the most important single application. If only a little over 10% of the worms entering your apples are calyx worms, they may be responsible for 40%, or nearly half, of the increase during the season. This is because a high percentage of first-brood worms attempt to enter the calyx, so that most of this 10% would be first-brood worms. The calyx spray is thus of very great value in your attempt to eliminate the first brood, and you must come very near to eliminating the first brood if you want satisfactory control.

In the second place, use a few baits to keep track of codling moth activity, and to indicate when to spray. It is worth while to keep a daily record of your catch year after year. Often you can look back and see your mistakes, and avoid making them again.

In heavily-infested regions it is necessary to spray about every ten days during the period of activity of the first brood. If this is done conscientiously, not more than two sprays should be needed after July first.

If more than one pound of lead arsenate is used to 50 gallons of spray, the increased dosage should be confined to the first-brood applications. Thoroughness and timeliness are of far more importance than a heavier dosage.

A summer oil emulsion, at one gallon to 100 gallons, added to the lead arsenate improves control. Owing to the possible effect on the tree or fruit, more than three such combination sprays in a season are not recommended. On the average, the most good will probably be obtained if oil is used in the

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second and third cover sprays for the first brood. For the second brood, if lead arsenate is used, oil will have to be confined to the first spray applied, as it will cause trouble in removing the residue if used later than this. When using an oil emulsion with lead arsenate, the emulsion should be placed in the tank first, the water turned in, and the lead arsenate added just before the tank is full.

It is possible now to discontinue the use of lead arsenate July 1. After this date barium fluosilicate or cryolite, with oil emulsion or fish oil may be used. The combination of nicotine sulfate and oil emulsion is also effective at this time. We hope to tell you more about these second-brood sprays at a later date. The important thing just now is to be ready to go ahead with the spraying as soon as most of the petals have dropped, and to get the calyx spray on rapidly and thoroughly.

There is available a new revision of Farmers' Bulletin No. 1326 "Control of the Codling Moth in the Pacific Northwest", which gives more detailed directions than is possible here. This bulletin may be obtained by writing to the station to which you are now listening or direct to the United States Department of Agriculture, Washington, D. C.

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